



Advancing sustainable development internationally through leadership in oceans, environment, science and health.

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The Southern Africa ESTH Hub Newsletter

May/June 2010

World Migratory Bird Day Celebrated with OVC in Botswana

On May 29, the U.S. Embassy sponsored Birdlife Botswana's commemoration of World Migratory Bird Day in Mogobane village. This year the bird watching and environmental education program benefitted over 500 schoolchildren, including orphans and vulnerable children (OVC), as a life skills, wildlife experience, and psychosocial support program. For many of these vulnerable children, this was their first time ever engaging with bird experts, who taught them about migratory patterns throughout Botswana. The program boosted the children's competencies in science, wildlife and ecology; the event also boosted their confidence through activities such as story-telling, songs, and simple ecology/science lessons while providing support, encouragement, fellowship, team-building, and hope to children dealing with the grief and trauma of losing a parent to HIV/AIDS. In this stigma-free and discrimination-free environment, these children felt free to experiment and learn about ornithology and wildlife ecology. Positive experiences such as these often inspire children to envision careers for themselves in science, conservation, and ecology. OVC in particular need such experiences in order to raise their spirits, help them cope with loss, and inspire them to work towards careers of their own. This environmental education program linked over 500 schoolchildren to BirdLife Botswana, and the program strengthened the relationships between the OVC themselves, while strengthening their confidence regarding their ability to master natural science concepts and interact with nature.



The Dirunya youth group from Mogobane Village delivered a bird poem dedicated to migratory birds and their environmental significance.



The marimba-players brought the house down!

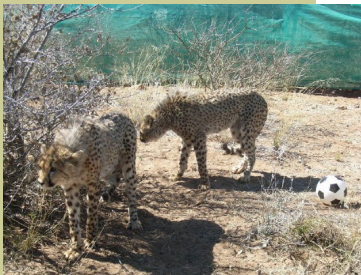
Tanzania and South Africa Relocate Rare Black Rhinos to the Serengeti

Conservationists flew the first five of 32 critically endangered East African black rhinos from South Africa back to their natural habitat in Tanzania's Serengeti park on Friday, May 21. The rhinos had been bred from a group that was rescued from the Serengeti in the 1960s and relocated to South Africa, to prevent a total extinction of their sub-species at the hands of poachers. Rampant poaching in the Serengeti in the 1960s and 70s saw the population of the east African black rhinos in Tanzania plummet from over 1 000 to just 70. Seven were relocated to South Africa in the early 60s. Tanzanian President Jakaya Kikwete said, "This event is a stark warning of what went wrong in the past." Organizers said the relocation was part of a new drive by African governments to protect the "big five" mammals; lions, rhinos, elephants, leopard and buffalo. The animals make up one of the continent's main tourist attractions. (www.iol.co.za, May 23, 2010)



Children sang songs and recited poems in honor of Earth Day at Mokolodi Nature Reserve's Education camp, sponsored by Embassy Gaborone.

"These types of environmental education camps at Mokolodi provide support, encouragement, fellowship, team-building, and hope to children dealing with the grief and trauma of losing a parent to HIV/AIDS."



These two cheetah cubs were rescued by CCB after they were found to be orphaned.

Environment: Earth Day in Mokolodi for Orphans & Vulnerable Children

On April 22-26, Embassy Gaborone sponsored Mokolodi Nature Reserve's Earth Day 2010 environmental education camp for orphans and vulnerable children (OVC) as a life skills, wildlife experience, and psychosocial support program. For some of these vulnerable children, this camp marked their first time ever seeing wildlife such as giraffes, elephants, or zebras. The program raised the children's awareness of wildlife and ecology, while boosting their confidence through activities such as story-telling, songs, and simple ecology and science lessons. These types of OVC environmental education camps at Mokolodi provide support, encouragement, fellowship, team-building, and hope to children dealing with the grief and trauma of losing a parent to HIV/AIDS. John Aves, Director of Mokolodi's Education camp, along with Mokolodi's wildlife experts, offered these OVC a positive experience that will hopefully inspire children to envision careers for themselves in science, conservation, and ecology. This environmental education program linked over 40 OVC in Gaborone to Mokolodi Nature Reserve, strengthened the relationships between the OVC themselves, and strengthened their competence and confidence regarding their ability to interact with nature.

Environment: Initial Botswana Forest Conservation Grants Approved

Forest Conservation Botswana (FCB) is a local organization which was set up by the Botswana government to manage USD 8.3 million in debt forgiveness provided by the United States in exchange for conservation activities under Tropical Forest Conservation Agreements signed in 2006. The FCB board of directors met on May 27 to review 14 proposals for conservation grants. The board approved funding for 11 conservation-related projects at a cost of 3.5 million pula (USD 500,000). These are the first projects to be approved in Botswana using TFCA funds.

Environment: Reducing Human/Wildlife Conflict in Botswana

Cheetah Conservation Botswana and Conservation International are collaborating in the development of a manual that aims to reduce human/wildlife conflict in the Western Kalahari Conservation Corridor (WKCC). The WKCC Project was established by Conservation International to establish formally conserved wildlife corridors between two main protected areas—the Kalahari Transfrontier Park and the Central Kalahari Game Reserve. The project also addresses the needs of local people by developing initiatives for sustainable utilization of natural resources.

This project will improve the biological, land-use, and socio-economic knowledge of the area, which will contribute as a foundation of future planning and management of the area. It aims to reduce human wildlife conflict and provide capacity building within local communities towards sustainable use of resources. The collaboration between CCB and CI has included extensive consultation with local communities, their leaderships, and other stakeholders from government and NGOs. A range of activities are planned for the next 6 months, including farmers workshops, teacher training workshops, school visits, and even a competition to find the best farmer in the WKCC to pilot a scheme to test the effectiveness of various livestock management methods to reduce predator conflict.

Last year, CCB rescued two six-month old orphaned cheetah cubs that were found by a farmer in Southern Botswana. The cubs were moved to CCB Ghanzi camp and have grown and are doing well. The cubs are being raised with minimum contact with humans in order to prepare them for life in the wild. They remain aggressive at feeding times and are learning to hunt.

For more information about Cheetah Conservation Botswana's activities, please visit: <http://www.cheetahbotswana.com/news.php>

Science and Technology: Eastern Cape Wind Turbine to Be Connected

Electrawinds Africa, an independent power producer has erected the first turbine of the Coega wind farm project in the Nelson Mandela Bay municipality (NMBM) in the Eastern Cape. Electrawinds Africa project developer Emil Unger said the project, which was the first of a larger 25-turbine farm, would be officially opened by the end of May. The 1.8 MW turbines would produce electricity for the Nelson Mandela Bay stadium during the 2010 FIFA World Cup, free of charge. The independent power producer used a purpose-built R70-million (\$930,000) crane from Vanguard to erect the wind turbines.

Belgium-based Electrawinds has invested R1.2-billion (\$160 million) in the project, and each of the 25 wind turbines would have a capacity of 1.8 MW, which translates into an annual yield of 5.7-million kilowatt hours, which was said to be enough energy to power about 1 700 households. Completion of the project was scheduled for 2011, and, once completed the wind farm would supply the NMBM with about 45 MW of green energy. The electricity generated by the wind farm would be fed into the national grid and would be distributed by NMBM to households within the area. (*Engineering News*, May 21, 2010)



The 1.8 MW turbines will produce electricity for the Nelson Mandela Bay stadium during the 2010 FIFA World Cup, free of charge.

Science and Technology: 'Resurrection Plants' Expert Wins Award

A world expert on what are known as "resurrection plants" was awarded the €100 000 Harry Oppenheimer Fellowship Award last month, to continue her work on how these plants can be used to ensure future food security. Prof Jill Farrant, who holds the research chair in the molecular physiology of plant desiccation tolerance at the University of Cape Town, was the 10th recipient of the fellowship, which encouraged high-end research, said Oppenheimer Memorial Trust trustee Bobby Godsell. Resurrection plants, mostly endemic to southern Africa, tolerate near total water loss for prolonged periods. If the way in which their genetic make-up works to do this could be better understood, it could be used to increase crops' drought resistance without resorting to genetic modification, Farrant said, after receiving the award in Johannesburg.

The United Nations' (UN's) Food and Agriculture Organisation has warned that if water use is not reduced and plants' drought resistance is not improved, many countries would have abandoned crop farming by 2050, she said. Last year, the UN announced that Africa's population had passed the 1-billion mark, and was estimated to reach 1.9-billion by 2050. The world's population is projected to peak at 9.22-billion in 2075, with concomitant pressures on resources, including food and water. Resurrection plants - one of the most common examples of which is the "bobbajaanster" (*Xerophyta retinervis*) - can survive up to 15 years in a "dead state" and lose up to 95% of their water content, but will "green up" within 24 to 76 hours after being watered, said Farrant.

She will fly to Switzerland in two weeks' time to work with Prof Felix Keller of the University of Zurich's Institute of Plant Biology, in the identification of the sugars made by these plants, how the plants make them, where they go in the plants and how they protect the plant in its "dead state". She will also use the award money to work with Dr Francesco Loreto of Italy's Consiglio Nazionale delle Ricerche (National Research Council), who investigates minuscule lipid "volatiles" (chemical signals). Lipids are a broad group of naturally occurring molecules that include fats, waxes, sterols and fat-soluble vitamins. Loreto has equipment that will allow Farrant to detect and identify these chemicals and then return to SA to test lipid levels in the chemical signals given off by resurrection plants, understand what they do and how they make the plants so successfully drought-resistant.

The Oppenheimer Memorial Trust this year had put about R13m into education, including R4m for individuals in postgraduate study, said Godsell.

(<http://allafrica.com/stories/printable/201005310401.html>)

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Science and Technology: TB Trial Splits HIV Community

One of South Africa's most eminent HIV scientists has been accused of causing "preventable deaths" during a clinical trial he conducted on people co-infected with HIV and TB. Reaction to the trial, published this year in the New England Journal of Medicine, has split the South African HIV/AIDS community with a number of HIV clinicians criticizing the study design. But Professor Salim Abdool Karim, Pro Vice-Chancellor at the University of KwaZulu-Natal, says that it is easy to judge his trial with the benefit of hindsight. "But when the trial was designed, there were no clear guidelines about whether TB and HIV could be treated together, mainly because of concerns about how patients would tolerate the drugs, how the drugs would interact and concerns about 'Immune Reconstitution Syndrome [a resurgence of latent infections]," said Abdool Karim.

Between 2005 and 2008, Abdool Karim and colleagues conducted a trial on 642 patients on TB treatment to establish when they should start antiretroviral treatment. The trial, "Starting ARV therapy at three points in TB therapy" (SAPiT), divided patients into three groups. The first two groups started ARVs while on TB treatment, while the third group only started ARVs once they had completed their six-month TB treatment. Twenty seven people (12.7 percent) died in the "sequential arm" where ARVs were delayed until after TB treatment was finished. This was double the deaths in the other two groups (5.8 percent) which integrated TB treatment and ARVs. But initially more deaths took place in the integrated arm of the trial. Most of the deaths in the sequential arm only happened after six to ten months when all patients had already finished their TB treatment. In other words, the benefit of combining TB treatment and ARVs took some months to emerge.

Bio-ethicists Sean Philpott and Udo Schuklenk described the trial as "deeply flawed" and estimated that there had been around 10 "preventable deaths" in the trial on the website of the Hastings Centre bioethics forum. "The failure of this research ethics committee to recognize the clinical, ethical, and legal deficiencies in this study is shameful and, we hope, will be investigated by the relevant South African authorities," charges Philpott, associate professor of bioethics at Union Graduate College in the US and Schuklenk, Research Chair in Bioethics at Queens University in Canada. A number of HIV clinicians have also criticised the trial. Their key concern is that the patients in the "sequential arm" had low CD4 counts (average 140) yet their ARV treatment was delayed for six to nine months, despite ARVs being recommended for people with CD4 counts below 200. Dr Francois Venter, head of the Southern African HIV Clinicians Society, acknowledged that it was an "awkward situation, as I have great respect for the researchers involved".

But Venter said that the study design was "bad" and that the researchers could have got similar results if they had recruited a bigger group of patients with CD4 counts above 200. "There are a number of questions that need to be answered to clear the air," said Venter. "Were there senior HIV clinicians looking after the patients? Why was there such a long delay in patients in the sequential arm getting ARVs? Why did the KwaZulu-Natal ethics board approve the study?" This week, Dr Douglas Wilson, head of clinical services at Edendale Hospital, and Dr Graeme Meintjes from the University of Cape Town criticized the trial in a letter to the New England Journal of Medicine. "The South African National Department of Health guidelines at the time of the study recommended initiating antiretroviral therapy in patients with CD4 counts of less than 200 cells per cubic millimetre after they have completed two months of tuberculosis treatment," said Wilson and Meintjes. "The SAPiT study did not offer the standard of care to patients in the sequential-therapy group, resulting in advanced immuno-suppression that remained untreated for up to nine months and higher mortality."

In response, Abdool Karim said: "The World Health Organization guidelines, which were the basis of the 2004 South African guidelines, categorically state that recommendations on the initiation of antiretroviral therapy in tuberculosis are 'provisional' and 'pending ongoing studies', since the 'optimal time to initiate [antiretroviral agents] in patients with [tuberculosis] is not known.'" Doctors overseeing those on the trial could put them on ARVs at any time if they showed signs that they needed it, and this happened in seven percent of cases.

International TB experts have also defended the trial. UNAIDS adviser Dr Catherine Hankins said it was "justifiable to run the sequential arm in the manner that it was done at that time for several reasons". (<http://allafrica.com/stories/printable/201006060015.html>)

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Health: African women begin test of vaginal ring intended to kill HIV virus

The first test of a long-acting vaginal ring loaded with an HIV-preventing drug has begun enrolling women in southern Africa. With no prospects for an AIDS vaccine in the next decade or longer, the AIDS community has high hopes for "microbicides," the general term for substances that kill viruses or bacteria on contact. None of the compounds tested to date, however, has worked, and one of them actually increased a woman's risk of becoming infected. The new study is the 15th undertaken by the International Partnership for Microbicides, a nonprofit group in Silver Spring that has helped lead the search for a discreet, woman-controlled means of protection. (*The Washington Post*- June 15, 2010)

Health: BONELA Supports, Defends Human Rights

Botswana Network on Ethics, Law and HIV/AIDS (BONELA) director, Mr Uyapo Ndadi says every human being is entitled to equal treatment irrespective of his/her belief, origin, colour, cultural background or HIV status. Speaking at BONELA and DMSAC human rights HIV/AIDS awareness campaign in Francistown on Saturday, Mr Ndadi said the war against HIV/AIDS could only be won if collaborative efforts were demonstrated by stakeholders. He said BONELA is there to ensure that human rights especially for those infected with HIV are not trampled upon. Mr Ndadi said modalities for human rights intervention in response to HIV/AIDS should be outsourced to ensure that those living with HIV/AIDS are not discriminated against. He said BONELA has realized that people who are HIV positive are stigmatized, a thing which he said should be discouraged at all costs as that "steals" the dignity those infected deserve in the course of life. (*Daily News, Botswana*- June 14, 2010)

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Health: 'Mother-Child HIV Transmission Can Stop In 2015'

Geneva-based Global Fund to Fight AIDS, Tuberculosis (TB) and Malaria, has said with adequate resources, mother-to-child transmission of HIV will be eliminated by 2015. In a statement available to newsmen yesterday, Global Fund also said that new HIV infections would be prevented and deaths from AIDS reduced. The statement was signed by the Executive Director of the Fund, Prof. Michel Kazatchkine. Global Fund, which carries out programs in 144 countries, added that it would be able to effectively check Tuberculosis (TB) prevalence by 2015. The Fund said it had provided 930,000 HIV-positive pregnant women with complete courses of ARV prophylaxis to reduce mother-to-child transmission. It noted that 2.3 billion condoms had also been distributed to reduce HIV transmission. The statement also said, "120 million HIV counseling and testing sessions have been conducted, 4.9 million basic care and support services have been provided to AIDS orphans and vulnerable children since the Global Fund started financing grants in 2003." (*Leadership Editors, Nigeria*- June 15, 2010)

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The Southern Africa Environment, Science, Technology and Health Office

Gaborone's Regional Environment, Science, Technology and Health Office advocates USG positions in international negotiations with key decision-makers in the Southern Africa region; works with U.S. Government environmental, technical, and scientific and health agencies in their efforts in Southern Africa; and supports and implements regional and bilateral environmental programs. Our office also follows issues in USG health programs including Avian Influenza, Malaria, TB, and HIV/AIDS through PEPFAR.

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